

What is claimed is:

1. A plasma-enhanced processing apparatus, comprising;

a process chamber in which a substrate is processed,

a pumping system that pumps said process chamber,

a gas-introduction system that introduces process gas into said process chamber,

a plasma-generation means that generates plasma in said process chamber by applying energy to said process gas,

a substrate holder that holds said substrate in said process chamber,

wherein an opposite electrode facing to said substrate held by said substrate holder is provided, and the opposite electrode comprises a clamping mechanism that clamps the front board to support said front board.

2. A plasma-enhanced processing apparatus as claimed in claim 1, wherein;

said opposite electrode comprises a main body, and a cooling mechanism that cools said front board via said main body.

3. A plasma-enhanced processing apparatus as claimed in claim 1 or 2, wherein;

said clamping mechanism clamps the periphery of said front

board by a clamping plate in surface contact with said front board .

4. A plasma-enhanced processing apparatus as claimed in claim 3, wherein;

said front board has a step at said periphery that is sandwiched by said main board and said clamping plate, and said clamping plate is flush with said front board.

5. A plasma-enhanced processing apparatus as claimed in claim 1, comprising;

a protector covering a surface of said clamping mechanism, wherein said surface is not exposed to said plasma.

6. A plasma-enhanced processing apparatus as claimed in claim 1, wherein;

said clamping mechanism clamps the periphery of said front board by a clamping plate in surface contact on said front board, and said protector is flush with said front board.

7. A plasma-enhanced processing apparatus as claimed in claim 1, 2, 3, 4, 5 or 6, wherein;

said front board is made of silicon poly-crystal or silicon mono-crystal.

8. A plasma-enhanced processing apparatus as claimed in claim 3,
wherein;

said clamping plate is screwed on a member except said front
board to press said front board onto said main body, and screwing
torque is 1Nm or more.

9. A plasma-enhanced processing apparatus as claimed in claim 6,
wherein;

said clamping plate is screwed on a member except said front
board to press said front board onto said main body, and screwing
torque is 1Nm or more.

10. A plasma-enhanced processing apparatus as claimed in claim
1, wherein;

a sheet made of carbon is inserted between said main body
and said front board.